

AMENDMENTS

IN THE CLAIMS

Please cancel claims 20 – 35. Claims 11 and 13 – 19 remain in the application as follows:

11. (Previously Amended) A voltage-controlled tunable filter including:
first and second cavity resonators;
means for exchanging a signal between the first and second cavity resonators;
a first voltage tunable dielectric capacitor positioned within the first cavity resonator, said dielectric capacitor including $\text{Ba}_x\text{Ca}_{1-x}\text{TiO}_3$, where x is in a range from about 0.2 to about 0.8;
means for applying a control voltage to the first voltage tunable dielectric capacitors;
a second voltage tunable dielectric capacitor positioned within the second cavity resonator;
means for applying a control voltage to the second voltage tunable dielectric capacitors;
an input coupled to the first cavity resonator; and
an output coupled to the second cavity resonator.

13. (Previously Added) The voltage-controlled tunable filter of claim 11, wherein each of the first and second voltage tunable dielectric capacitors includes:
a first electrode;
a tunable dielectric film positioned on the first electrode; and
a second electrode positioned on a surface of the tunable dielectric film opposite the first electrode.

14. (Previously Added) The voltage-controlled tunable filter of claim 11, further comprising:

a plurality of additional coaxial resonators, electrically coupled in series to said first and second cavity resonators;

means for exchanging a signal between the additional resonators; and

a plurality of additional voltage tunable dielectric capacitors, each of the additional voltage tunable dielectric capacitors being positioned within one of the additional resonators.

15. (Previously Added) The voltage-controlled tunable filter of claim 11, further comprising:

a first rod positioned in the first resonator, wherein the first voltage tunable dielectric capacitor is positioned at one end of the first rod; and

a second rod positioned in the second resonator, wherein the second voltage tunable dielectric capacitor is positioned at one end of the second rod.

16. (Previously Added) The voltage-controlled tunable filter of claim 15, wherein:

each of the rods in the cavity resonators is serially connected with one of the voltage tunable dielectric capacitors.

17. (Previously Added) The voltage-controlled tunable filter of claim 15, wherein each of the rods in the cavity resonators is grounded.

18. (Previously Added) The voltage-controlled tunable filter of claim 11, wherein the input comprises a first coupling probe and the output comprises a second coupling probe.

19. (Previously Added) The voltage-controlled tunable filter of claim 11, wherein each of the first and second voltage tunable dielectric capacitors includes:

a substrate;

a tunable dielectric film positioned on the substrate; and
first and second electrodes positioned on a surface of the tunable dielectric
film opposite the substrate, the first and second electrodes being separated to form a gap.

20. Cancel claims 20 – 35.